

Amendments to the Claims:

Please enter the following amendments to the claims, with insertions indicated by underlining and deletions by strikethrough.

Listing of Claims:

1. (currently amended) A method for increasing the target-specific toxicity of a chemotherapeutic agent, comprising:

- a) pretargeting an enzyme to a mammalian target site, wherein said pretargeting comprises (i) administering a bispecific antibody or fragment, wherein one arm of the bispecific antibody is targeted against a target site antigen and a second arm is targeted against a low molecular weight hapten that is conjugated to said enzyme and (ii) administering a low molecular weight hapten that is conjugated to said enzyme; and
- b) administering a cytotoxic chemotherapeutic agent known to act at the target site, or a prodrug form thereof which is converted to the chemotherapeutic agent in situ, which chemotherapeutic agent is also detoxified to form an intermediate of lower toxicity using said mammal's ordinary metabolic processes, whereby the detoxified intermediate is reconverted to its more toxic form by the pretargeted enzyme and thus has enhanced cytotoxicity at the target site, wherein said hapten is DTPA or a DTPA chelate.

2. (original) The method of claim 1, wherein said enzyme is a glucuronidase.

3. (original) The method of claim 1, wherein said mammal is a human.

4. (previously presented) The method of claim 1, wherein said bispecific antibody or antibody fragment comprises murine, chimeric or humanized antibodies or antibody fragments.

5. (previously presented) A method for increasing the target-specific toxicity of a chemotherapeutic agent, comprising:

- a) pretargeting an enzyme to a mammalian target site, wherein said pretargeting comprises (i) administering a bispecific antibody or fragment, wherein one arm of the bispecific antibody is targeted against a target site antigen and a second arm is targeted against a low molecular weight hapten that is conjugated to said enzyme and (ii) administering a low molecular weight hapten that is conjugated to said enzyme; and
- b) administering a cytotoxic chemotherapeutic agent known to act at the target site, or a prodrug form thereof which is converted to the chemotherapeutic agent in situ, which chemotherapeutic agent is also detoxified to form an intermediate of lower toxicity using said mammal's ordinary metabolic processes, whereby the detoxified intermediate is reconverted to its more toxic form by the pretargeted enzyme and thus has enhanced cytotoxicity at the target site,

wherein said prodrug is the cancer chemotherapy agent CPT-11, and said detoxified intermediate is SN-38-glucuronide.

6. (previously presented) The method of claim 5, further comprising pretargeting an esterase to said target site that cleaves CPT-11 to SN-38.

7. canceled.

8. (previously presented) A method for increasing the target-specific toxicity of a chemotherapeutic agent, comprising:

- a) pretargeting an enzyme to a mammalian target site, wherein said pretargeting comprises (i) administering a bispecific antibody or fragment, wherein one arm of the bispecific antibody is targeted against a target site antigen and a second arm is targeted against a low molecular weight hapten that is conjugated to said enzyme and (ii) administering a low molecular weight hapten that is conjugated to said enzyme; and

- b) administering a cytotoxic chemotherapeutic agent known to act at the target site, or a prodrug form thereof which is converted to the chemotherapeutic agent in situ, which chemotherapeutic agent is also detoxified to form an intermediate of lower toxicity using said mammal's ordinary metabolic processes, whereby the detoxified intermediate is reconverted to its more toxic form by the pretargeted enzyme and thus has enhanced cytotoxicity at the target site,

wherein a second enzyme, which can convert the prodrug to the chemotherapeutic agent, also is conjugated to said hapten, and wherein the second enzyme also is pretargeted to said target site.

9. (canceled)

10. (original) The method of claim 8, wherein said hapten is DTPA or a DTPA chelate.

11. (original) The method of claim 1, wherein additionally, a clearing agent is administered to remove non-targeted pretargeting molecules and/or enzymes from said mammal's circulation prior to administration of said chemotherapeutic agent or prodrug.

12. (original) The method of claim 11, wherein said clearing agent is an anti-MAb antibody or an anti-idiotypic antibody.

13. (original) A method for increasing the target-specific toxicity of a chemotherapeutic agent, comprising:

- a) pretargeting an enzyme to a mammalian target site, wherein said pretargeting comprises (i) administering a bispecific antibody or fragment, wherein one arm of the bispecific antibody is targeted against a target site antigen and a second arm is targeted against a low molecular weight hapten that is conjugated to said enzyme; and (ii) administering a low molecular weight hapten that is conjugated to said enzyme; and
- b) administering a cytotoxic chemotherapeutic agent known to act at the target site, or a prodrug form thereof which is converted to the chemotherapeutic agent in situ, which chemotherapeutic agent is also detoxified to form an intermediate of lower toxicity using said mammal's ordinary metabolic processes, whereby the detoxified intermediate is reconverted to

its more toxic form by the pretargeted enzyme and thus has enhanced cytotoxicity at the target site,

wherein, a clearing agent is administered to remove non-targeted pretargeting molecules and/or enzymes from said mammal's circulation prior to administration of said chemotherapeutic agent or prodrug, and said clearing agent is an antibody that binds said hapten.

14. (original) The method of claim 11, wherein said enzyme is conjugated to a Mab and said clearing agent is an anti-idiotypic antibody or anti-idiotypic antibody fragment which is specific for the paratope of said Mab.

15-47. (canceled)

48. (previously presented) The method of claim 1, wherein said enzyme is selected from the group consisting of a glycosylase other than glucuronidase, a sulfatase, an esterase or an amidase.

49. (currently amended) The method of claim 1, ~~A method for increasing the target-specific toxicity of a chemotherapeutic agent, comprising:~~

- ~~a) pretargeting an enzyme to a mammalian target site, wherein said pretargeting comprises (i) administering a bispecific antibody or fragment, wherein one arm of the bispecific antibody is targeted against a target site antigen and a second arm is targeted against a low molecular weight hapten that is conjugated to said enzyme and (ii) administering a low molecular weight hapten that is conjugated to said enzyme; and~~
- ~~b) administering a cytotoxic chemotherapeutic agent known to act at the target site, or a prodrug form thereof which is converted to the chemotherapeutic agent in situ, which chemotherapeutic agent is also detoxified to form an intermediate of lower toxicity using said mammal's ordinary metabolic processes, whereby the detoxified intermediate is reconverted to its more toxic form by the pretargeted enzyme and thus has enhanced cytotoxicity at the target site,~~

wherein said antibody fragment comprises an Fab, Fab', F(ab)₂, F(ab')₂ or scFv fragment.